DOCKET No.: CHEN-0082D1 (108330.00094)

PATENT

In the Claims:

Please cancel Claims 1-62.

63. (Currently amended) A cured phosphorus-containing epoxy resin prepared by cross-linking an epoxy resin or an advanced epoxy resin in a molten state of said epoxy resin or an advanced epoxy resin and in the presence of a hardener according to any one of claims 1 to 62 having a formula selected from the group consisting of (a), (b), (c) and (d):

(a)
$$XH$$
 XA $(A')_{m'}$ $(A$

m = 1 or 2; m' = 0 or 1; $p = 0 \sim 3$; $R = C1 \sim C4$ alkyl; X = O, S or NH;

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$$Q=-$$
, $-CH_2-$, $-CH_3$, $-O-$, $-S-$, or $-S-$

$$A=H$$
, $O=O$ or $O=P$,

$$Q' = Q$$
 $(R)_p$
or

$$-\left(\begin{array}{c}XH\\ CH2\\ (R)p\end{array}\right)_{o'}\left(\begin{array}{c}N\\ H\end{array}\right)_{N}^{N}NCH2$$

wherein Q = -, when Q' is the latter;

$$Y = -\left\{CH_2\right\}_r$$
 or $-\left\{CH_2\right\}_r$

wherein

R¹, R² independently are H, C1~C18 alkyl, C6~C18 aryl, C6~C18 substituted aryl, C6~C18 aryl methylene, or C6~C18 substituted aryl methylene;

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n' = 0 - 11; $Z = -NH_2$, -NHR, or -R; o = 1 - 3; o' = 3 - 10; r = 0 - 6; R, Q and p are defined as above;

wherein R is defined as above and n=0-5;

wherein either all the A or all the A' in each formula of (a) to (d) are H, and at least one of the A is not H when all the A' are H in each formula of (a) to (d), and at least one of the A' is not H when all the A are H in each formula of (a) to (d);

or a hardener mixture comprising a one said hardener having said formula according to any one of claims 1 to 62 and an additional different hardener for epoxy resin.

- 64. (Original) The cured phosphorus-containing epoxy resin according to claim 63 having 0.5 - 30% of phosphorus based on the weight of the cured phosphorus-containing epoxy resin.
- 65. (Original) The cured phosphorus-containing epoxy resin according to claim 64 having 0.5 - 5% of phosphorus based on the weight of the cured phosphorus-containing epoxy resin.
- 66. (Original) The cured phosphorus-containing epoxy resin according to claim 63, wherein said epoxy resin is a bi-functional epoxy resin selected from the group consisting of bisphenol A, bisphenol F, bisphenol S, and biphenol; a multi-functional epoxy resin of phenol formaldehyde novolac epoxy or cresol formaldehyde novolac epoxy; or a mixture of the bi-functional epoxy resin and the multi-functional epoxy resin.

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67. (New) The cured phosphorus-containing epoxy resin according to claim 63, wherein the hardener has a structure wherein all the A' are H and

$$Q' = \frac{XA}{(R)p}$$

- 68. (New) The cured phosphorus-containing epoxy resin according to claim 67, wherein the hardener has a structure of the formula (a).
- 69. (New) The cured phosphorus-containing epoxy resin according to claim 63, wherein the hardener has a structure of the formula (b), and all the A' are H.
- 70. (New) The cured phosphorus-containing epoxy resin according to claim 63, wherein the hardener has a structure of the formula (c), and all the A' are H.
- 71. (New) The cured phosphorus-containing epoxy resin according to claim 63, wherein the hardener has a structure of the formula (d), and all the A' are H.
- 72. (New) The cured phosphorus-containing epoxy resin according to claim 63, wherein all the A are H, and Q' is

$$-\left(\begin{array}{c}XH\\ CH_2\\ (R)_p\end{array}\right)_{o'}\left(\begin{array}{c}N\\ H\end{array}\right)_{N}N CH_2$$

73. (New) The cured phosphors-containing epoxy resin according to claim 72, wherein the hardener has a structure of the formula (a).

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74. (New) The cured phosphorus-containing epoxy resin according to claim 63, wherein the hardener has a structure of the formula (b) and all the A are H.

- 75. (New) The cured phosphorus-containing epoxy resin according to claim 63, wherein the hardener has a structure of the formula (c) and all the A are H.
- 76. (New) The cured phosphorus-containing epoxy resin according to claim 63, wherein the hardener has a structure of the formula (d) and all the A are H.